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DETACHED EXTRACTS FROM ONE OF THE LECTURES ON THE  
HUNTERIAN PREPARATIONS.

BY SIR CHARLES BELL.

GENTLEMEN, we shall not do honor to Mr. Hunter, or credit to ourselves, unless we understand the manner in which he took his notes and formed his collection. He felt that life was short, and he took such slight notes respecting the nature of the animal as a naturalist would make. He then put up his preparation, and having done that, he considered that the best notes that he could have were thus preserved. Accordingly, you must endeavor to consult those notes. They constitute, as I ventured to say to you before, a perfect language, an universal language.

Now, I find that there are on the table, and also on the shelves, preparations explaining the hard materials of animals, bone, cartilage, horn, and shells, and forming such a series as obviously to imply what was in Hunter's mind when he was at work with them. Thus directed, I go into the museum, and there find such articles as are illustrative of the principles betokened in them, but all of which cannot be put upon this table.

I beg you to notice that Mr. Hunter is said, and I believe correctly, to have taught us to think. At all events he has given us the materials for thinking; and I have been exceedingly anxious to place before you those materials, and offer those observations on them which they naturally and obviously demand. The principle I have already assumed is this—that taking for example all the vertebræ, taking all the animals which have a true skeleton—observing all their characters, observing the whole of the mammalia, birds, reptiles, and fishes, their orders and genera—you find that the skeleton is a type by which the habits and internal structure of the animal may be discovered. It is for this purpose that I beg your attention to the skeletons before us. I intend to go over them, and, as far as I am able, show you their varieties and the reasons of those varieties.

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I shall next proceed, gentlemen, to make a few remarks on the skeleton of the elephant. The head on the table is one of the smallest specimens; the largest could hardly be brought down for your inspection. Why is the head so large? Because this great animal is grannivorous, and must have teeth like a mill-stone—as hard and as peculiar; and possessing such teeth it must have jaws of a proportionate size, which, again, must have proportionate muscles, and these also a proportionate skull, from which hangs a proboscis. Altogether, the weight of this mass must be enormous. Now, if you consider the difference between sustaining a

weight upon your shoulders and at the extremity of your hand, you will see at once that if this immense weight had been attached to a long neck, the weight of the head would have been increased, for the neck would then have acted with the power of a lever, and the whole mass would have become too great for the anterior extremities. Jockeys who know the properties of a horse, find that these are entirely changed by the attachment even of a small head to a *long* neck. You may imagine that if such an apparently trifling peculiarity produces a tendency to foundering in the feet of the horse, such a weight as the elephant's head appended to a long neck must have an amazing effect upon the anterior extremities of that animal. Now the elephant's head is attached to its body by no new form of skeleton, but by the contraction and diminution of the vertebre of the neck, to such an extent that you scarcely perceive that the animal has a neck. The head, therefore, is placed nearly perpendicularly upon the anterior limbs. What is the result of that proximity? Why, that the head cannot reach the ground, and that being the case (and if it did not reach the ground it could not feed) the animal must have a trunk. Here, then, you have the reason why a trunk is appended to the head of this enormous animal—forming, as it were, a hand, by which it may drink and feed.

There is another circumstance worthy of your consideration in this matter, and that is the existence of the hole which gives a passage to a branch of the fifth pair of nerves. You see how a minute attention to anatomy enables you to proceed in this study. The enormous trunk is muscular, highly muscular, highly sensitive. The nerve, then, which has to supply that trunk must be large. You know that every hole in the temporal bone indicates the presence of minute nerves, and if these were wanting the nerves would be wanting, and an important function would be cut off. The hole, however, not only indicates the presence of the nerve, but its size, and by the size you estimate the part to which it is going. If the animal then be to have limbs to move the body, and if it have to carry this head, it must have a trunk. With regard to the mastodon, which is an animal *incognitum*, an animal which is lost to modern generations, and of which we possess only certain portions, what sort of an animal must it have been if estimated merely from the size of the leg? When you compare the length of its leg with that of an elephant, and examine its teeth, you perceive that it must have had an enormous head, and if our views be consistent, it must have had a trunk. If you could only obtain a small portion of the frontal bone with the passage for the fifth pair, the size of that hole would sufficiently inform you whether there had existed such a nerve as could only be wanted for a long trunk.

But to return to the elephant. I before ventured to suggest that its bones were built upon the principle of the Egyptian plan of architecture. They are of enormous bulk. Now while you observe the enormous bulk of the bones, you cannot but observe also the manner in which they are placed on each other. They are perpendicular to each other, a circumstance which you meet with in no other animal. If you were to compare the bones of the elephant with, for example, the bones of the horse, the elk, or any animal of great lightness and speed, you would find the two

sets quite different. The bones in the latter animals are not perpendicular to each other. But in the elephant the weight is so enormous, that it seems not only that the bones must cling together, but that they must be built in an exactly perpendicular direction. If you look at any of the quadrupeds—the horse, the ass, the zebra, or any of the club-footed ruminating animals—you find a very different principle prevail. The scapula lies within, the humerus falls obliquely, and, consequently, it comes down upon a spring. The loins, the back, and the hind extremities, are the force with which these animals are carried forwards, but the anterior and posterior extremities are proportionate; and if you have a force in an animal by which it can spring to a great height, an elastic apparatus is at the same time provided, by which the animal can come to the ground again without experiencing a shock.

Such is the character of the position of the bones in these animals, as compared with those of the enormous elephant; and I might also observe, that the class of timid animals, by having their bones arranged in an oblique position, are prepared to start off at a moment's notice. Timidity of character in the animal is not merely marked in the eye or the ear, but in the capacity to start away at once. You could not, gentlemen, do so yourselves. You must bend the knee before you can bring the un muscles into action. Nature, however, has prepared fearful animals to spring off the instant an alarm is given, without any state of preparation.

Can there be anything so extraordinary in the way of contrast as the elephant and the giraffe? There is not a more beautiful example of the accordance of all the parts of a skeleton to one great purpose than is presented to us in the giraffe. The object of nature is, in that animal, to sustain the neck during its erection towards a high point to procure its food, and I beg you to notice how that process is effected. The head is particularly small. The elongated neck never would carry a large head. You perceive at once, therefore, the reason of the remarkably small head. But small as is the head of the giraffe, and long and slender as is the neck, it is of a great weight, and the weight is thrown from off the anterior extremities. As to the horse, its head and neck protrude, and the whole weight of this fore part comes on the fore-feet; but in the giraffe, from the oblique position of the spine, and the shortness of the hind-feet, an equal weight is placed on all the four feet. Another curious circumstance is this—that there are three ribs of enormous strength under the scapula of the giraffe. Those ribs are proportioned with a view to support the enormous column of the neck. The posterior ribs are different. Why? Because their function is merely that of respiration. They are not destined to bear any part of this enormous column. What more, then, is wanting to enable this animal to reach the highest tree? One thing more, and that is, a peculiar tongue—a tongue capable of great elongation, one which will start forth yet farther than the neck, and which it can wrap round the tree, and so bring down the food.

But I am, perhaps, leaving out for too long a time, as explanatory of the general condition of the skeleton, that of the bird. In the bird you have the best possible instruments of life. What is the object of the animal's powers? Why, first, to make the bird specifically lighter, and then to concentrate all its power in the wings. I beg you to notice how

these phenomena are produced. In the first place, air is admitted into all the interior of the bones. Communications are found betwixt the vesicles and air-cells within, and every bone. The bone of the wing, powerful as it is, is not nearly so heavy as a bone of corresponding size in a quadruped. The light marrow, which is the lightest of all materials, is diminished, and air is admitted in order that the hard and resisting material may take that form which, on mechanical principles, you know to be most secure against transverse fracture. This is the first admirable thing we observe. The great extent of bone and processes necessary for the lodgment, attachment, and play of the muscles, is procured at no expense of weight. The next admirable thing is the change in the mode of respiration, on which I must not touch, or I should make too great a digression from the proper subject of the lecture. But the respiration is so altered, that the whole interior, the thorax, and the abdomen, have air-cells within, admitting a proportionate expansion of their substance, and causing a proportionate diminution of the specific weight of the whole bird.

But even this is not all. The sternum is elongated, it acquires an enormous size, and almost all the muscular substance is concentrated and lodged there, that it may play with, and add force to, the wings. Elsewhere there is a keel, the great projecting spine of the breast-bone; and according to the form of the keel, you may know the quality or the flight of the bird, whether it be a domesticated animal, or one which remains through the season, or is a migrating bird.

Again, gentlemen, if this be the case, if the trunk of the bird be thus concentrated into a mere work of firm carpentry for the attachment of muscles, how is it moved? How is it to balance itself during walking and flying? The answer brings you to admire the length of the vertebræ of the tail. Since the wings are thus employed in flight, there is another instrument, like the hand, which sustains the balance of the creature in walking and in flight—a rudder-like projection, in the vertebræ of the tail.

There is nothing more curious, as connected with the habits of an animal, than the condition of the toes, such as we may observe in contrasting the dog, the wolf, and all animals of that class, with the feline tribe. You are all aware that the latter have fine sharp hooks, and it is said that the hook is held back by an elastic ligament. It is very true that there is an elastic ligament, and that it so turns up the part that the sharp point does not touch the ground. But does it not appear to you that some further explanation is wanting? It occurred to me, that if the hook, the claw, were brought down by the action of the flexor muscle, it was very extraordinary that when the lion made its spring, its claws did not sink down and lay hold of the ground. On dissecting the part, then, with a view to discover the truth of this, I found that the retention might be explained by the very peculiar position and size of the bones, as exhibited in this diagram. There is nothing more curious than the manner in which the entire strength of the phalanges of the toes is given to one bone, so that the others are rendered useless, and are drawn out of the way, as in the horse. In the horse, all those bones which answer to the fingers are consolidated into one bone, than which nothing is more admi-

table. Our professor of veterinary surgery has told me repeatedly, that long as he has contemplated this formation, he never demonstrates these parts without finding some new beauty in the quality of elasticity, for the prevention of concussion. The horse, too, has not only such a toe as is suited to his club-foot, but the part corresponds with the whole configuration and disposition of the animal. You may see a remarkable example of adaptation in comparing the foot of the horse with that of the cow. There is no preparation before me illustrating this, but you must all have noticed how difficult it is for a horse to draw his feet out of soft ground. His round and hollow hoof necessarily causes what is called "suction." Soft soil, then, is not his place, whereas you see that cattle, when by the water-side for instance, have no difficulty in drawing up their feet out of the most freely-yielding ground; for in the first place, the foot expands as it descends, and, secondly, it is somewhat conical, and, therefore, can be easily withdrawn. In this familiar circumstance, you cannot but admire the adaptation of the extremities to the habits of the animal.

But we must now seek our illustrations a little farther off. I should perhaps carry you down, had I time, through the chelonian order, and show you (as in the case of the tortoise) the manner in which the scapula is formed, and singularly altered to suit certain purposes. You may in the tortoise recognize at once all the parts of the arm, the humerus, the radius, the ulna, the carpus, and the phalanges. If we had time to enter upon these we should be carried on through the lower classes of animals, down to those of a former condition of the world. In the ichthyosaurus and the plesiosaurus you may recognize the scapula, the humerus, the radius, the ulna, the carpus, and an extraordinary extension of the phalanges. I know not what the naturalist says to this, who thinks that as we descend, the elements of complicated structure are withdrawn, for in the ichthyosaurus and the plesiosaurus the very extremities seem to multiply, in an extraordinary manner, their proportions of bone. I have now, however, but a short time left to-day, and therefore must hasten to observe that it appears that those animals which have disappeared as living creatures, inhabited a warmer quarter of the world than our own. They are described as lying in the limestone, many fathoms beneath the chalk-beds of England. In short, geologists, who have made beautiful observations and great discoveries in natural history, and whose minds and the accuracy of whose reasoning and conception we can estimate, have told us that these were inhabitants of an age of the world which existed long before the series of changes which have prepared the surface of the earth for the abode of man. Now, we find not only a particular type, as it were, running through all those creatures which now inhabit the globe, but in the strata which lie far under the present surface—which had existence in truly remote periods, when one day was as a thousand years, and a thousand years as one day. There have been discovered remains of now-extinct animals, in whose limbs we recognize the same parts with which we are familiar in the skeleton of man. What is the conclusion? Why, I should say that the same principle was in operation during their life as there is now—the same system of parts—and

treatment. The first, sixth, and ninth, would unquestionably have proved mortal, had the ordinary routine course of practice been adopted. All the successful cases but the tenth would, in all probability, have terminated unsuccessfully under common treatment. The fourth and fifth cases were undoubtedly essentially benefited, if not saved, by the administration of those medicinal agents, whose influence was mostly upon the *secernt or absorbent system*. To trust, however, to absorption, or to wait for the *sanative efforts* of the system to discharge the matter of empyema, when we are well assured of its existence, certainly would be endangering the life of the patient, unless the symptoms were not urgent, and the *patient a child*. Baron Larrey has, however, published several cases of soldiers in whom unequivocal evidence of thoracic effusions existed, which were removed by resorption without an operation. In one case a copious and fetid perspiration broke out, and from that time the symptoms of thoracic effusion diminished, and finally disappeared. To aid the absorption he applied to the affected side cylinders of moxa, and repeated blisters.

3. That cases of empyema require the same general and local treatment that common abscesses do, when situated in other deep-seated parts of the body. Indeed, Dr. Good has appropriately placed *apostema, empyema commune, psoaticum, &c.* as different species of the same genus.

3. That the general opinion that the admission of air into the cavity of the chest, in case of empyema, is essentially pernicious, is fallacious. Although not a desirable event, it cannot be regarded as dangerous. The older surgeons used to keep the apertures open by the use of tents, &c. Mr. Key had a patient who wore a leaden canula in his side fifteen months, through which to discharge the matter. He recovered. The late Prof. N. Smith used to relate a case in which a patient of his discharged matter through a passage in his side nine years. In these cases air must have constantly found admission. C. Bell advises the introduction of a bougie or leaden canula after the old method; and Dessault, to give exit to the matter, passed a seton through the chest. After all these facts, he must be a great admirer of modern innovation, not improvement, who can read without a smile the curious method of draining the thorax by capillary attraction, as it has recently been recommended in the American Journal of Medical Sciences by Dr. S. A. Cartwright (Vide Vol. VII. p. 413). Such ingenuity exerted to make a simple affair difficult, cannot fail to excite the risible muscles, unless the nerves of risibility are paralyzed. But it is an age of improvement, and even laughable inconsistencies are more excusable than the common supine indifference to investigation indulged by too many practitioners of medicine. The method pursued by Dr. Pancoast (Vide Amer. J. of M. Sciences, Vol. XIII. p. 97), to remove the accumulated matter from the cavity of the thorax without the admission of air, by the sly introduction of a female canula into the side of the thorax, through which to give exit to the matter as circumstances might require, is, equally with Dr. Cartwright's method of oozing it out by the side of a suspender-wire, unnecessary, if our experience and observation can be trusted. Dr. P. has related two cases of recovery from empyema, one by the cunning device

of chirurgical skill. In the other case, "the man seated himself in an unsrequent side of the house, and plunged the blade of his penknife opposite the seat of pain between the ribs. He was found with pus flowing from the wound : a large quantity was discharged from this narrow wound. From that time his symptoms were relieved, and the patient finally recovered." Poor man ! whose patient was he ? This was a strong case to discredit the practice Dr. P. had been advocating in the first part of his communication. One of his cases was supposed to be cured without the admission of air into the thorax ; the other certainly "finally recovered," with this admission. In fact, in the latter instance, the recovery might have been hastened by the stimulus of the air upon the suppurating surface. It might have invigorated the capillaries and produced healthy granulations of this surface, upon the same principle any other liquid irritant would have affected the surface of a common abscess. Notwithstanding, Baron Larrey, in his paper on empyema, advises the atmospheric air to be carefully excluded from the thoracic cavity ; he used a "tent to prevent the closing of the wound," and his "dressings were applied, having *apertures* for any discharge that might flow." These *apertures* would unavoidably admit the air within the cavity. Whoever has witnessed experiments with an air-pump, must be sensible of the difficulty of excluding air from a vacuum. How could the air be excluded from the cavity of the thorax, and at the same time a tent, *having an aperture*, be worn, or a catheter be frequently introduced ?

4. In cases of empyema the value of auscultation and percussion can be duly estimated. Without the aid of the stethoscope, pleximeter, or percussion, about all our criteria of effusions within the thoracic cavity are fallacious or equivocal. With a little experience by auscultation and percussion, no man of common intelligence, at present, need be at a loss—especially if the accumulation be of considerable quantity. Had Dr. G. Gregory taken pains to inform himself of the value of the stethoscope, he would never have suffered himself to make the following erroneous assertion. "In some instances, it may be possible to detect the presence of fluid in the thorax by percussion and *external examination* : but I am convinced that this can never be held out as a certain means of judging of the disease." (*Hydrothorax*.—Vide his Practice, p. 542.) Had he written in the days of Celsus, or before Avenbrugger and Laennec's time, there would have been some excuse for this learned and practical writer's negligence in regard to the recent improvements in the examination of thoracic diseases. Ignorance of the modern method of the exploration of these diseases is inexcusable in any practitioner, but more especially in a practical writer like Dr. George Gregory. "It was," says Dr. James Johnson, "Baglivi, we believe, who deplorèd so pathetically the difficulty of ascertaining the nature of diseases of the lungs. Yet there is no other internal organ whose disorders are now so easily determined, as the organ of respiration." (Vide Medico-Chirurgical Review, New Series, Vol. IV. p. 449.) That the modern method of exploring thoracic diseases should sometimes fail, either from inattention, inexperience, or ignorance, is nothing strange, nor does it afford the least objection to the utility of the method. An instance of

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that the mind of the Creator contemplated in their creation not only the production of an infinite variety of animals, but also an adaptation of the animal's form to the condition of the globe itself at the time the animal was a living inhabitant of the earth, variously adapting, through a succession of changes, all the animals to the condition which resulted when the mountains were raised as they now stand. From the change of surface there necessarily arose a variation of temperature in the atmosphere, in consequence of which there came winds, blowing the mists from the lower grounds, and elevating the clouds to the tops and sides of mountains, whence rushed down rivers, breaking up the higher grounds, and bringing them down to the lower areas, making them prolific, and, in short, presenting a scene suitable to the industry, ingenuity, and enjoyment of man. I do not conceive that I am drawing an extravagant conclusion when I say, that all this was contemplated and effected during the course which nature has hitherto run.

Notwithstanding the numerous examples I have presented to your notice, my demonstrations are not yet exhausted. I intend to select another—that of the human hand. It is fitting that we should conclude these views by considering what is peculiar in that member. Allow me to say that I am as proud of my thumb as I dare say some of you are of the calf of your leg; for it is the thumb which distinguishes the hand of man. It is the number of muscles which gives play to the thumb, that gives the hand its dexterity. The thumb, you know, is equal in strength to all the fingers. In observing the grasp which the thumb and fingers are capable of making, you at once see the strength of the muscles of the arm. The pad of the thumb is a provision of safety to the hand itself. How could a sailor hold a rope and raise himself from the ground, were not the hand worked, just, for instance, as the foot of the chameleon is worked? The chameleon has a fine soft cushion in its foot, and there is a cushion within the human hand, and another provision, indeed, which runs across it, and adds proportionately to its power of grasping, causing the edge which makes that hollow which induced Diogenes to throw away his cup as useless when he went for water. Even in the extremities you find how careful nature is to give due support; and had I time at present I could show you how beautifully these pads are covered with skin, and how curiously they are provided with nerves for the sensibility of touch. There is, for instance, as much to admire in the manner in which the nerves of touch lie along the points of the fingers, as there is in the distribution of the nerves of vision itself. In short, gentlemen, the hand of man corresponds with his mind. It is not the source of ingenuity, but it corresponds with his ingenuity, and executes its purpose; and the ingenuity of all the animals we have considered, corresponds with the form of their external organs.

*London Lancet.*

## EMPYEMA.

*Cases of Empyema, with Practical Remarks.* By J. A. ALLEN, M.D.  
of Middlebury, Vermont.

[Communicated for the Boston Medical and Surgical Journal.—Continued from p. 94.]

It will be observed that of the ten cases of empyema which I have reported, seven recovered, and the third, seventh, and eighth cases proved fatal. The first, second, fourth, fifth, sixth and ninth cases were subjected to medical treatment. The tenth was tedious and protracted, but finally recovered by good nursing. The first, second, sixth, ninth and tenth, had apertures through the parieties of the side, and there was a discharge of matter and an ingress and egress of air some time. The first, second, ninth, and probably the sixth cases, were essentially benefited, if not saved, by the introduction of stimulating injections into the cavity of the thorax. The third, seventh, and eighth, would obviously have received, at least, temporary alleviation, if not permanent benefit, from an operation for empyema. The tenth case would evidently have been much expedited in the process of recovery, if it had been subjected to judicious medical and chirurgical treatment. From these facts the following conclusions appear to be established.

1. That the usual fatality of cases of empyema, has arisen more in consequence of inefficient, inappropriate, or neglected treatment, than from an inevitably fatal character of the complaint itself.

There are probably few practitioners, who have been in the habit of watching such affections, who cannot bring to their recollection cases of this nature, in which "after the doom of the patient has been declared inevitable, the sanative powers of the constitution have been alone sufficient to bring the disease to a happy termination." To show the fatal character of empyema and the uselessness of remedial measures, it has been said, "Dupuytren has asserted that out of more than fifty cases in which he operated, he could quote but two instances of success; and that Sir A. Cooper has never observed one." (Vide American Journal of Medical Sciences, Vol. XIII. p. 96.) Sir A. Cooper has recorded the case of "a Mr. Bryant, in the city of London, who had this operation performed on him by Sir B. Harwood, and he ultimately recovered." He has also recorded two cases where the matter in the chest produced a circumscribed swelling between the ribs, in which he advised an opening. These cases recovered "after a very long-continued and copious discharge." (Vide Sir A. Cooper's lectures.) Would not the syringing into the cavities of the suppurated thoraces, in these cases, some of Boerhaave's "honeyed-water," together with the use of some good tonics internally, have shortened "the long-continued and copious discharge?" Experience, from which we learn, informs me that such a course, however old and homely, would have shortened the cure, and saved much time and trouble. It may be regarded presumption in me, but I hazard the opinion, founded upon analogy, that if Dupuytren's cases had received such treatment after his operations as I have advocated in this paper, the fatality would have been much lessened. The first, second, sixth, and ninth cases that I have published, evidently, were cured by the after

this kind we find in this Journal, Vol. VIII. p. 354. It is, however, to be presumed from the well-known candor, intelligence, and honesty, of the gentleman who wrote that article, that, before this time, he has applied himself more assiduously to the acquirement of stethoscopic knowledge, without which, says an able writer, correctly, "*no man can treat diseases of the chest with any confidence.*"

5. When it is evident there is an accumulation of pus, or sero-purulent matter, within the bag of either pleura, to any considerable amount, it should be discharged by an aperture made between the ribs, without delay, especially in adults. I hardly know of an excusable exception to this principle. I shall ever regret my not pressing the operation in my third, seventh, and eighth cases. Dr. Hastings has related a case in the Medico-Chirurgical Review for April 1826, in which, under the most unpromising circumstances, he operated to satisfy the urgent entreaties of the patient, and drew off seven pints of sero-purulent matter; and although the poor man survived only nine days after, he "on several occasions expressed much gratitude for the relief he had obtained by the operation." For the credit of the operation I would not operate on a patient who obviously could survive only a short time; but for the benefit of the unfortunate individual, I would not hesitate to operate when the effusion was confined to one side, and the resonance of the opposite lung was tolerably clear, under almost any circumstances. Hippocrates recommended the side to be opened, either by incision or cautery, when matter was lodged within the thorax. Boerhaave advises an aperture to be made "when it is certain" that pus is within the cavity of the chest. "When the effusion is discovered, the sooner the chest is tapped, the better," says Dr. Mackintosh. (Vide his Pathology, Vol. I. p. 307.)

6. After the matter is discharged, the orifice may be secured by a tent, in order that the future secretions of pus may be evacuated, at such times as circumstances may require. If the matter discharged be of a healthy kind, nothing more need be done for the cavity of the chest; and when the discharge ceases, the orifice should be suffered to close. If the purulent secretion become thin, watery, or unhealthy, some stimulating liquid should be injected into the cavity of the chest, once in three or four days, to change the action of the suppurating surface. When the matter is very copious and thin, astringent injections, as lime water, or a weak solution of sulphate of zinc, may be used. In short, precisely the same course of treatment should be adopted as in sinous or fistulous abscesses, situated where we could not lay open the part or bring the sides of the abscess in contact by compression. In such cases, no one hesitates to syringe into them some stimulating liquid. Success, almost uniformly, in a good constitution, follows. Indeed, the efforts of nature in empyema, do imitate those of art in other cases.

By compression, we ordinarily endeavor to bring the sides of a common abscess into contact:—and in every case of recovery from empyema, in which there has been a large collection of matter, the ribs of the affected side fall in, or collapse, and by this means the sides of the suppurating cavity are brought into contact, or near approximation. It would appear that in this instance Laennec has mistaken the effect for the cause. He states, "that it was long before he had an opportunity

of ascertaining to what cause the contraction of the thorax was owing; which he at last discovered to depend on fibro-cartilaginous adhesions between the pleura pulmonalis and costalis. He, nevertheless, thinks that a degree of contraction is produced by the common cellular adhesions, when very extensive. That the fibro-cartilaginous adhesions occurred in consequence of the approximation of the pleura pulmonalis and costalis in a state of adhesive inflammation or granulation, appears to me much more probable. How these fibro-cartilaginous adhesions could be so formed as by their traction to draw in the parietes of the thorax, is to me unaccountable. That the side of the thorax would fall in to some extent, especially when there was an aperture through the side, and consequently a partial collapse of the lung, thereby leaving an empty cavity, and by that means favor or facilitate this fibro-cartilaginous union, is in accordance with what we witness in other cases of apostema. The principle assumed by Laennec would require two absurdities. 1. That vegetations or granulations from the pleura costalis and pulmonalis should extend and meet each other and form a union. And, 2. When this union was effected, this fibro-cartilaginous cord, as it may be appropriately called, by its traction would draw in the side of the thorax. In my apprehension, it would seem more likely to expand the delicate cellular tissue of the lung, than to pull in the bony parietes of the thorax. Dupuytren, having failed in fifty cases, it is said, has changed his practice, since which he has been more successful. He now immediately closes the orifice, and if the matter reaccumulates, draws it off by another operation. Van Swieten's rule, on several accounts, is to be preferred. "We," says he, "should never close up the external wound, unless the interior surface of the ulcerated thorax be rightly depurated, and afterwards consolidated and cicatrized, for there might be danger of another empyema in consequence of such an incautious and imprudent treatment."

[To be concluded in the next.]

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**ATROPA BELLADONNA, IN OBSTETRICS.**

To the *Editor of the Boston Medical and Surgical Journal.*

SIR,—About two months ago, I informed an accoucheur of the method of employing a liniment of extract of belladonna and lard (a few grains of it being applied by the finger, within the vagina, around the os uteri and the perineum), in cases of troublesome rigidity. He has employed it in three cases, and is in raptures as to the effects. He now carries some of the preparation constantly with him. It is obvious that the quantity should not be sufficient to affect the whole system, but only to produce a local relaxation. With this important limitation, if in future it should operate as favorably, as it appears to have done thus far, it will prove to be one of the most material improvements which has been introduced into obstetrics during the present century. I do not wish, however, to be too sanguine, since I am free to acknowledge, that within my observation, the trials have not been sufficiently numerous to give any very definite rules for its employment. I only desire to call the attention of the medical faculty to the subject, and hope they will acquaint

these phenomena are produced. In the first place, air is admitted into all the interior of the bones. Communications are found betwixt the vesicles and air-cells within, and every bone. The bone of the wing, powerful as it is, is not nearly so heavy as a bone of corresponding size in a quadruped. The light marrow, which is the lightest of all materials, is diminished, and air is admitted in order that the hard and resisting material may take that form which, on mechanical principles, you know to be most secure against transverse fracture. This is the first admirable thing we observe. The great extent of bone and processes necessary for the lodgment, attachment, and play of the muscles, is procured at no expense of weight. The next admirable thing is the change in the mode of respiration, on which I must not touch, or I should make too great a digression from the proper subject of the lecture. But the respiration is so altered, that the whole interior, the thorax, and the abdomen, have air-cells within, admitting a proportionate expansion of their substance, and causing a proportionate diminution of the specific weight of the whole bird.

But even this is not all. The sternum is elongated, it acquires an enormous size, and almost all the muscular substance is concentrated and lodged there, that it may play with, and add force to, the wings. Elsewhere there is a keel, the great projecting spine of the breast-bone; and according to the form of the keel, you may know the quality or the flight of the bird, whether it be a domesticated animal, or one which remains through the season, or is a migrating bird.

Again, gentlemen, if this be the case, if the trunk of the bird be thus concentrated into a mere work of firm carpentry for the attachment of muscles, how is it moved? How is it to balance itself during walking and flying? The answer brings you to admire the length of the vertebræ of the tail. Since the wings are thus employed in flight, there is another instrument, like the hand, which sustains the balance of the creature in walking and in flight—a rudder-like projection, in the vertebræ of the tail.

There is nothing more curious, as connected with the habits of an animal, than the condition of the toes, such as we may observe in contrasting the dog, the wolf, and all animals of that class, with the feline tribe. You are all aware that the latter have fine sharp hooks, and it is said that the hook is held back by an elastic ligament. It is very true that there is an elastic ligament, and that it so turns up the part that the sharp point does not touch the ground. But does it not appear to you that some further explanation is wanting? It occurred to me, that if the hook, the claw, were brought down by the action of the flexor muscle, it was very extraordinary that when the lion made its spring, its claws did not sink down and lay hold of the ground. On dissecting the part, then, with a view to discover the truth of this, I found that the retention might be explained by the very peculiar position and size of the bones, as exhibited in this diagram. There is nothing more curious than the manner in which the entire strength of the phalanges of the toes is given to one bone, so that the others are rendered useless, and are drawn out of the way, as in the horse. In the horse, all those bones which answer to the fingers are consolidated into one bone, than which nothing is more admi-

table. Our professor of veterinary surgery has told me repeatedly, that long as he has contemplated this formation, he never demonstrates these parts without finding some new beauty in the quality of elasticity, for the prevention of concussion. The horse, too, has not only such a toe as is suited to his club-foot, but the part corresponds with the whole configuration and disposition of the animal. You may see a remarkable example of adaptation in comparing the foot of the horse with that of the cow. There is no preparation before me illustrating this, but you must all have noticed how difficult it is for a horse to draw his feet out of soft ground. His round and hollow hoof necessarily causes what is called "suction." Soft soil, then, is not his place, whereas you see that cattle, when by the water-side for instance, have no difficulty in drawing up their feet out of the most freely-yielding ground; for in the first place, the foot expands as it descends, and, secondly, it is somewhat conical, and, therefore, can be easily withdrawn. In this familiar circumstance, you cannot but admire the adaptation of the extremities to the habits of the animal.

But we must now seek our illustrations a little farther off. I should perhaps carry you down, had I time, through the chelonian order, and show you (as in the case of the tortoise) the manner in which the scapula is formed, and singularly altered to suit certain purposes. You may in the tortoise recognize at once all the parts of the arm, the humerus, the radius, the ulna, the carpus, and the phalanges. If we had time to enter upon these we should be carried on through the lower classes of animals, down to those of a former condition of the world. In the ichthyosaurus and the plesiosaurus you may recognize the scapula, the humerus, the radius, the ulna, the carpus, and an extraordinary extension of the phalanges. I know not what the naturalist says to this, who thinks that as we descend, the elements of complicated structure are withdrawn, for in the ichthyosaurus and the plesiosaurus the very extremities seem to multiply, in an extraordinary manner, their proportions of bone. I have now, however, but a short time left to-day, and therefore must hasten to observe that it appears that those animals which have disappeared as living creatures, inhabited a warmer quarter of the world than our own. They are described as lying in the limestone, many fathoms beneath the chalk-beds of England. In short, geologists, who have made beautiful observations and great discoveries in natural history, and whose minds and the accuracy of whose reasoning and conception we can estimate, have told us that these were inhabitants of an age of the world which existed long before the series of changes which have prepared the surface of the earth for the abode of man. Now, we find not only a particular type, as it were, running through all those creatures which now inhabit the globe, but in the strata which lie far under the present surface—which had existence in truly remote periods, when one day was as a thousand years, and a thousand years as one day. There have been discovered remains of now-extinct animals, in whose limbs we recognize the same parts with which we are familiar in the skeleton of man. What is the conclusion? Why, I should say that the same principle was in operation during their life as there is now—the same system of parts—and

that the mind of the Creator contemplated in their creation not only the production of an infinite variety of animals, but also an adaptation of the animal's form to the condition of the globe itself at the time the animal was a living inhabitant of the earth, variously adapting, through a succession of changes, all the animals to the condition which resulted when the mountains were raised as they now stand. From the change of surface there necessarily arose a variation of temperature in the atmosphere, in consequence of which there came winds, blowing the mists from the lower grounds, and elevating the clouds to the tops and sides of mountains, whence rushed down rivers, breaking up the higher grounds, and bringing them down to the lower areas, making them prolific, and, in short, presenting a scene suitable to the industry, ingenuity, and enjoyment of man. I do not conceive that I am drawing an extravagant conclusion when I say, that all this was contemplated and effected during the course which nature has hitherto run.

Notwithstanding the numerous examples I have presented to your notice, my demonstrations are not yet exhausted. I intend to select another—that of the human hand. It is fitting that we should conclude these views by considering what is peculiar in that member. Allow me to say that I am as proud of my thumb as I dare say some of you are of the calf of your leg; for it is the thumb which distinguishes the hand of man. It is the number of muscles which gives play to the thumb, that gives the hand its dexterity. The thumb, you know, is equal in strength to all the fingers. In observing the grasp which the thumb and fingers are capable of making, you at once see the strength of the muscles of the arm. The pad of the thumb is a provision of safety to the hand itself. How could a sailor hold a rope and raise himself from the ground, were not the hand worked, just, for instance, as the foot of the chameleon is worked? The chameleon has a fine soft cushion in its foot, and there is a cushion within the human hand, and another provision, indeed, which runs across it, and adds proportionately to its power of grasping, causing the edge which makes that hollow which induced Diogènes to throw away his cup as useless when he went for water. Even in the extremities you find how careful nature is to give due support; and had I time at present I could show you how beautifully these pads are covered with skin, and how curiously they are provided with nerves for the sensibility of touch. There is, for instance, as much to admire in the manner in which the nerves of touch lie along the points of the fingers, as there is in the distribution of the nerves of vision itself. In short, gentlemen, the hand of man corresponds with his mind. It is not the source of ingenuity, but it corresponds with his ingenuity, and executes its purpose; and the ingenuity of all the animals we have considered, corresponds with the form of their external organs.

*London Lancet.*

## EMPYEMA.

*Cases of Empyema, with Practical Remarks. By J. A. ALLEN, M.D.  
of Middlebury, Vermont.*

[Communicated for the Boston Medical and Surgical Journal.—Continued from p. 94.]

It will be observed that of the ten cases of empyema which I have reported, seven recovered, and the third, seventh, and eighth cases proved fatal. The first, second, fourth, fifth, sixth and ninth cases were subjected to medical treatment. The tenth was tedious and protracted, but finally recovered by good nursing. The first, second, sixth, ninth and tenth, had apertures through the parieties of the side, and there was a discharge of matter and an ingress and egress of air some time. The first, second, ninth, and probably the sixth cases, were essentially benefited, if not saved, by the introduction of stimulating injections into the cavity of the thorax. The third, seventh, and eighth, would obviously have received, at least, temporary alleviation, if not permanent benefit, from an operation for empyema. The tenth case would evidently have been much expedited in the process of recovery, if it had been subjected to judicious medical and chirurgical treatment. From these facts the following conclusions appear to be established.

1. That the usual fatality of cases of empyema, has arisen more in consequence of inefficient, inappropriate, or neglected treatment, than from an inevitably fatal character of the complaint itself.

There are probably few practitioners, who have been in the habit of watching such affections, who cannot bring to their recollection cases of this nature, in which "after the doom of the patient has been declared inevitable, the sanative powers of the constitution have been alone sufficient to bring the disease to a happy termination." To show the fatal character of empyema and the uselessness of remedial measures, it has been said, "Dupuytren has asserted that out of more than fifty cases in which he operated, he could quote but two instances of success; and that Sir A. Cooper has never observed one." (Vide American Journal of Medical Sciences, Vol. XIII. p. 96.) Sir A. Cooper has recorded the case of "a Mr. Bryant, in the city of London, who had this operation performed on him by Sir B. Harwood, and he ultimately recovered." He has also recorded two cases where the matter in the chest produced a circumscribed swelling between the ribs, in which he advised an opening. These cases recovered "after a very long-continued and copious discharge." (Vide Sir A. Cooper's lectures.) Would not the syringing into the cavities of the suppurated thoraces, in these cases, some of Boerhaave's "honeyed-water," together with the use of some good tonics internally, have shortened "the long-continued and copious discharge?" Experience, from which we learn, informs me that such a course, however old and homely, would have shortened the cure, and saved much time and trouble. It may be regarded presumption in me, but I hazard the opinion, founded upon analogy, that if Dupuytren's cases had received such treatment after his operations as I have advocated in this paper, the fatality would have been much lessened. The first, second, sixth, and ninth cases that I have published, evidently, were cured by the after

treatment. The first, sixth, and ninth, would unquestionably have proved mortal, had the ordinary routine course of practice been adopted. All the successful cases but the tenth would, in all probability, have terminated unsuccessfully under common treatment. The fourth and fifth cases were undoubtedly essentially benefited, if not saved, by the administration of those medicinal agents, whose influence was mostly upon the secernt or absorbent system. To trust, however, to absorption, or to wait for the sanative efforts of the system to discharge the matter of empyema, when we are well assured of its existence, certainly would be endangering the life of the patient, unless the symptoms were not urgent, and the patient a child. Baron Larrey has, however, published several cases of soldiers in whom unequivocal evidence of thoracic effusions existed, which were removed by resorption without an operation. In one case a copious and fetid perspiration broke out, and from that time the symptoms of thoracic effusion diminished, and finally disappeared. To aid the absorption he applied to the affected side cylinders of moxa, and repeated blisters.

2. That cases of empyema require the same general and local treatment that common abscesses do, when situated in other deep-seated parts of the body. Indeed, Dr. Good has appropriately placed *apostema*, *empyema commune*, *psoaticum*, &c. as different species of the same genus.

3. That the general opinion that the admission of air into the cavity of the chest, in case of empyema, is essentially pernicious, is fallacious. Although not a desirable event, it cannot be regarded as dangerous. The older surgeons used to keep the apertures open by the use of tents, &c. Mr. Key had a patient who wore a leaden canula in his side fifteen months, through which to discharge the matter. He recovered. The late Prof. N. Smith used to relate a case in which a patient of his discharged matter through a passage in his side nine years. In these cases air must have constantly found admission. C. Bell advises the introduction of a bougie or leaden canula after the old method; and Dessault, to give exit to the matter, passed a seton through the chest. After all these facts, he must be a great admirer of modern innovation, not improvement, who can read without a smile the curious method of draining the thorax by capillary attraction, as it has recently been recommended in the American Journal of Medical Sciences by Dr. S. A. Cartwright (Vide Vol. VII. p. 413). Such ingenuity exerted to make a simple affair difficult, cannot fail to excite the risible muscles, unless the nerves of risibility are paralyzed. But it is an age of improvement, and even laughable inconsistencies are more excusable than the common supine indifference to investigation indulged by too many practitioners of medicine. The method pursued by Dr. Pancoast (Vide Amer. J. of M. Sciences, Vol. XIII. p. 97), to remove the accumulated matter from the cavity of the thorax without the admission of air, by the sly introduction of a female catheter into the side of the thorax, through which to give exit to the matter as circumstances might require, is, equally with Dr. Cartwright's method of oozing it out by the side of a suspender-wire, unnecessary, if our experience and observation can be trusted. Dr. P. has related two cases of recovery from empyema, one by the cunning device

of chirurgical skill. In the other case, "the man seated himself in an unrequested side of the house, and plunged the blade of his penknife opposite the seat of pain between the ribs. He was found with pus flowing from the wound : a large quantity was discharged from this narrow wound. From that time his symptoms were relieved, and the patient finally recovered." Poor man ! whose patient was he ? This was a strong case to discredit the practice Dr. P. had been advocating in the first part of his communication. One of his cases was supposed to be cured without the admission of air into the thorax ; the other certainly "finally recovered," with this admission. In fact, in the latter instance, the recovery might have been hastened by the stimulus of the air upon the suppurating surface. It might have invigorated the capillaries and produced healthy granulations of this surface, upon the same principle any other liquid irritant would have affected the surface of a common abscess. Notwithstanding, Baron Larrey, in his paper on empyema, advises the atmospheric air to be carefully excluded from the thoracic cavity ; he used a "tent to prevent the closing of the wound," and his "dressings were applied, having *apertures* for any discharge that might flow." These *apertures* would unavoidably admit the air within the cavity. Whoever has witnessed experiments with an air-pump, must be sensible of the difficulty of excluding air from a vacuum. How could the air be excluded from the cavity of the thorax, and at the same time a tent, *having an aperture*, be worn, or a catheter be frequently introduced ?

4. In cases of empyema the value of auscultation and percussion can be duly estimated. Without the aid of the stethoscope, pleximeter, or percussion, about all our criteria of effusions within the thoracic cavity are fallacious or equivocal. With a little experience by auscultation and percussion, no man of common intelligence, at present, need be at a loss—especially if the accumulation be of considerable quantity. Had Dr. G. Gregory taken pains to inform himself of the value of the stethoscope, he would never have suffered himself to make the following erroneous assertion. "In some instances, it may be possible to detect the presence of fluid in the thorax by percussion and *external examination* : but I am convinced that this can never be held out as a certain means of judging of the disease." (*Hydrothorax*.—Vide his Practice, p. 542.) Had he written in the days of Celsus, or before Avenbrugger and Laennec's time, there would have been some excuse for this learned and practical writer's negligence in regard to the recent improvements in the examination of thoracic diseases. Ignorance of the modern method of the exploration of these diseases is inexcusable in any practitioner, but more especially in a practical writer like Dr. George Gregory. "It was," says Dr. James Johnson, "Baglivi, we believe, who deplored so pathetically the difficulty of ascertaining the nature of diseases of the lungs. Yet there is no other internal organ whose disorders are now so easily determined, as the organ of respiration." (Vide Medico-Chirurgical Review, New Series, Vol. IV. p. 449.) That the modern method of exploring thoracic diseases should sometimes fail, either from inattention, inexperience, or ignorance, is nothing strange, nor does it afford the least objection to the utility of the method. An instance of

this kind we find in this Journal, Vol. VIII. p. 354. It is, however, to be presumed from the well-known candor, intelligence, and honesty, of the gentleman who wrote that article, that, before this time, he has applied himself more assiduously to the acquirement of stethoscopic knowledge, without which, says an able writer, correctly, "*no man can treat diseases of the chest with any confidence.*"

5. When it is evident there is an accumulation of pus, or sero-purulent matter, within the bag of either pleura, to any considerable amount, it should be discharged by an aperture made between the ribs, without delay, especially in adults. I hardly know of an excusable exception to this principle. I shall ever regret my not pressing the operation in my third, seventh, and eighth cases. Dr. Hastings has related a case in the Medico-Chirurgical Review for April 1826, in which, under the most unpromising circumstances, he operated to satisfy the urgent entreaties of the patient, and drew off seven pints of sero-purulent matter; and although the poor man survived only nine days after, he "on several occasions expressed much gratitude for the relief he had obtained by the operation." For the credit of the operation I would not operate on a patient who obviously could survive only a short time; but for the benefit of the unfortunate individual, I would not hesitate to operate when the effusion was confined to one side, and the resonance of the opposite lung was tolerably clear, under almost any circumstances. Hippocrates recommended the side to be opened, either by incision or cautery, when matter was lodged within the thorax. Boerhaave advises an aperture to be made "*when it is certain*" that pus is within the cavity of the chest. "When the effusion is discovered, the sooner the chest is tapped, the better," says Dr. Mackintosh. (Vide his Pathology, Vol. I. p. 307.)

6. After the matter is discharged, the orifice may be secured by a tent, in order that the future secretions of pus may be evacuated, at such times as circumstances may require. If the matter discharged be of a healthy kind, nothing more need be done for the cavity of the chest; and when the discharge ceases, the orifice should be suffered to close. If the purulent secretion become thin, watery, or unhealthy, some stimulating liquid should be injected into the cavity of the chest, once in three or four days, to change the action of the suppurating surface. When the matter is very copious and thin, astringent injections, as lime water, or a weak solution of sulphate of zinc, may be used. In short, precisely the same course of treatment should be adopted as in sinous or fistulous abscesses, situated where we could not lay open the part or bring the sides of the abscess in contact by compression. In such cases, no one hesitates to syringe into them some stimulating liquid. Success, almost uniformly, in a good constitution, follows. Indeed, the efforts of nature in empyema, do imitate those of art in other cases.

By compression, we ordinarily endeavor to bring the sides of a common abscess into contact:—and in every case of recovery from empyema, in which there has been a large collection of matter, the ribs of the affected side fall in, or collapse, and by this means the sides of the suppurating cavity are brought into contact, or near approximation. It would appear that in this instance Laennec has mistaken the effect for the cause. He states, "that it was long before he had an opportunity

of ascertaining to what cause the contraction of the thorax was owing; which he at last discovered to depend on fibro-cartilaginous adhesions between the pleura pulmonalis and costalis. He, nevertheless, thinks that a degree of contraction is produced by the common cellular adhesions, when very extensive. That the fibro-cartilaginous adhesions occurred in consequence of the approximation of the pleura pulmonalis and costalis in a state of adhesive inflammation or granulation, appears to me much more probable. How these fibro-cartilaginous adhesions could be so formed as by their traction to draw in the parietes of the thorax, is to me unaccountable. That the side of the thorax would fall in to some extent, especially when there was an aperture through the side, and consequently a partial collapse of the lung, thereby leaving an empty cavity, and by that means favor or facilitate this fibro-cartilaginous union, is in accordance with what we witness in other cases of apostema. The principle assumed by Laennec would require two absurdities. 1. That vegetations or granulations from the pleura costalis and pulmonalis should extend and meet each other and form a union. And, 2. When this union was effected, this fibro-cartilaginous cord, as it may be appropriately called, by its traction would draw in the side of the thorax. In my apprehension, it would seem more likely to expand the delicate cellular tissue of the lung, than to pull in the bony parietes of the thorax. Dupuytren, having failed in fifty cases, it is said, has changed his practice, since which he has been more successful. He now immediately closes the orifice, and if the matter reaccumulates, draws it off by another operation. Van Swieten's rule, on several accounts, is to be preferred. "We," says he, "should never close up the external wound, unless the interior surface of the ulcerated thorax be rightly depurated, and afterwards consolidated and cicatrized, for there might be danger of another empymena in consequence of such an incautious and imprudent treatment."

[To be concluded in the next.]

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**ATROPA BELLADONNA, IN OBSTETRICS.**

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To the Editor of the *Boston Medical and Surgical Journal*.

SIR,—About two months ago, I informed an accoucheur of the method of employing a liniment of extract of belladonna and lard (a few grains of it being applied by the finger, within the vagina, around the os uteri and the perineum), in cases of troublesome rigidity. He has employed it in three cases, and is in raptures as to the effects. He now carries some of the preparation constantly with him. It is obvious that the quantity should not be sufficient to affect the whole system, but only to produce a local relaxation. With this important limitation, if in future it should operate as favorably, as it appears to have done thus far, it will prove to be one of the most material improvements which has been introduced into obstetrics during the present century. I do not wish, however, to be too sanguine, since I am free to acknowledge, that within my observation, the trials have not been sufficiently numerous to give any very definite rules for its employment. I only desire to call the attention of the medical faculty to the subject, and hope they will acquaint

you with the results of their experience. Every practitioner must have frequently found rigidity to be a very vexatious obstacle, so as sometimes to retard, for many hours, a labor, which in every other respect is perfectly natural. If belladonna, without risk or inconvenience to mother or child, can be so managed as to overcome this kind of rigidity, as a palliative it will be one of the most useful and convenient articles of the *materia medica.*

SENEX.

**BOSTON MEDICAL AND SURGICAL JOURNAL.**

BOSTON, FEBRUARY 26, 1834.

**DR. AYERS AND THE CHOLERA.**

We have been favored with a visit from Dr. Stephen Ayers, the person who led the three horses into Montreal at the time of the cholera, and is said to have cured that disease by administering a mixture of charcoal, sugar, and hog's lard, and bathing the surface with hot ley. The mixture was made by rubbing together equal parts of all the ingredients, and giving two or three tablespoonfuls every ten or fifteen minutes. This is the head and front of this celebrated personage's practice at Montreal, and the fame of his success we all remember.

It surprised us not a little to witness the propriety of this gentleman's language and demeanor, and still more to learn that he was a regular medical licentiate, in the State of New Jersey. He showed us his diploma, which bore evident marks of authenticity, and is signed by Jonathan Ford Morris, M.D. and Isaac Ogden, M.D. The date is worn off, but he states that it was received in 1798. But a small portion of his time, since that period, has been spent in the practise of his profession; being of a scheming and roving disposition, he has wandered about among blacks and whites, civilized people and Indians, collecting minerals and medicines and knowledge of various kinds; and, among the varieties of the latter, that which he appears to have turned to the best account is his insight into some of the properties of poor human nature. He has found, by observation, that there is no lack of credulity among men, and he has lost nothing by the discovery.

At the time the cholera raged in Canada, the Doctor, who was quietly pursuing his rural occupations, conceived the idea that he might cure that formidable disease, and thus arise, perhaps, as by magic, to sudden and high experience in his profession. Accoutred as he was, he set out for the land of the pestilence, with no other equipage or companions than his three lame horses laden with drugs and his diploma, which he led into the fated city. The circumstances of his entré and the nature of his pretensions must have been rare awakeners of the curiosity and winners of the credulity of the Canadians, at such a moment, as he went among them; and he knew enough of human nature to satisfy himself that he had a fair chance of gaining a subsistence either on the faith and hope, or on the charity of the people. His appearance would seem to favor the claims of either. In Canada, the former served his turn to a charm, but in Boston he rests upon the latter, and finds it a much less satisfactory resource. His estimate is that he cured about 300 patients, and

brought away as many dollars ; the former may yet be living to testify to his skill, but the latter—alas, they are like water spilt upon the ground ; and as either traveling or resting with such *compagnons de voyage*, is attended with considerable expense, he throws himself on the benevolence of our citizens for the means of reaching New York.

Dr. Ayers does not rest his narrative on his own authority alone. Among the documents he exhibited to us, were several Montreal newspapers, containing an address of the people to him on his departure from that place. This address sets forth in lively terms the great success of his practice, and the gratitude of the community for his providential appearance among them at that time. It is signed by about two hundred persons. His reply is well written, and is evidently his own production. The Doctor speaks with warmth of the kindness of the people to him, but he complains bitterly of the Canadian physicians, that they refused to adopt his practice, notwithstanding his marked success.

But there is no cholera now, and the Doctor has got up a scheme for curing consumption. It was with a view to put in execution his mode of arresting this malady that he came to Boston ; but ill success in the attempt is the cause of his intention to make New York the theatre of his benevolent enterprise. Why it is he has been disappointed in the object of his visit to us, we cannot say ; perhaps there is less fondness here than in most large cities, for trying experiments with the health. And yet when we look about us and see how large a proportion of our inhabitants throw themselves, when sick, into the hands of reckless and unprincipled charlatans—how the dwellings of ignorant pretenders are crowded, and the fame of the infamous, how loudly it is trumpeted, and how widely it is spread among our citizens—when we see fortunes reared on the sale of secret compounds for curing all diseases, and fortune's favorites pouring out their treasures at the feet of gifted ladies and natural bone-setters, we can scarcely set down the failure of Dr. A. to so good a cause. Perhaps the ground he takes is already occupied. We believe not : there is not at present, so far as we know, any one here who pretends to devote himself or herself to this particular disease. It is more probable that the faith of the people in his reputed panacea has been impaired by past experience—for if we recollect rightly there have been one or two itinerant doctors here before him, who pretended to cure consumption by remedies not very unlike Dr. Ayers' medicine for the cholera ; and if none of the patients of his predecessors remain to dissuade others from embracing the false and fatal delusion, their histories are not yet forgotten : the Doctor has come here too soon by two or three years at least.

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#### PANIFICATION.

Dr. BOUCHARDAT and the Duke of Luynes transmitted to the Session of the Academy, the 10th of June last, the results of some experiments on Panification. It is a familiar fact to those versed in the art of bread-making, that substances not containing gluten, however otherwise nutritious, as potatoes, rice, &c. will not rise, and therefore cannot, without admixture of flour, be made into a proper bread. The object of this experiment was to substitute for gluten the curd of milk, which appears to have the closest analogy to this substance in its properties. Some curd freed from cream was repeatedly washed, well pressed and dried, and mixed in the proportion of ten per cent with water, containing a sufficient

quantity of carbonate of potash. Fecula was incorporated in this solution, and the mixture dried in the oven. But as the bread made with this mixture would not rise, they concluded that what facilitated the dilatation of the dough made with flour meal, was that the granular masses were broken by the mill. To place the mixture now used in similar circumstances, it was sent to mill, after having added to it one per cent of gelatine, the utility of which had been proved by M. Durcet. The grinding was easily effected; and with the farina thus prepared, they made a loaf, which seemed to them to unite the desired conditions.

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*Effects of Lightning corrected by Cold Affusion.*—Dr. Young, of Pennsylvania, has published in the American Journal, a case of recovery from a stroke of lightning, by the affusion of cold water. This remedy is not new, but it may be well, occasionally, to recall the attention of the profession to its effects; as the infrequency of such accidents manifestly contributes to our forgetfulness of the most appropriate treatment.

"An hour after the stroke, the patient was entirely insensible to every external impression, with deep, slow, interrupted respiration; the relaxation of the muscular system was complete; the pulse, as to fulness, was nearly natural, it was soft, very easily compressible, and very slow, being only about 60, as now we could be ascertained by a second watch; the pupil was sensible, though fully dilated. In less than half a minute, the patient began to toss about and moan for the first time since the accident; by a continuance of the dashing for about five minutes, she appeared so much aroused, as was evinced by crying, endeavoring to talk, though without being able, tossing, &c. drinking from the cold, that we discontinued its use, had her wet clothes taken off, and had her put to bed and covered up warm. After this, she was alternately still, and inclined to doze and sleep for a minute or two at a time, then to roll from side to side, moan, and seemed in great distress; the surface was cold, but the pulse harder, more frequent and quick; the pupils were contracted, and everything indicated a change, approaching to reaction, to have taken place. I remained with her till 2 o'clock A. M., when it was established, she could talk and explain her sensations; she complained of very severe pain in the head, and I now apprehended danger from the opposite quarter, to anticipate which, I bled her to twenty ounces by estimate, keeping my finger on the pulse, and not stopping till there was a perceptible change in it; her head was bathed with cool vinegar, and as her feet were yet cold, they were enveloped in wetted horse-radish leaves; in half an hour she sunk into a composed, comfortable sleep, from which she did not rouse till half-past 7 o'clock. Finding the pulse again too active, and the patient still complaining of some headache, I again bled her twelve ounces, ordered a dose of Epsom salts to be given in three or four hours, with some other directions concerning diet, stillness, &c. and left her, with a request to be sent for, if it was thought necessary. I heard no more from her for a week, when she had almost entirely recovered from all the effects of the injury.

Might not this cold dashing be serviceable in cases of severe concussion from falls, blows, &c. when the patient lies for hours, and even days, before reaction comes on? I have not had an opportunity of trying it, since I witnessed its effects in the above case, but I think it worth a trial."

*Chorea cured by the Actea racemosa.*—In the same periodical, the same physician has borne testimony to these effects of the *Actea* in *Chorea St. Viti*. A boy of 17 had this disease in one side only. His health otherwise seemed perfectly good. Without the least preparation, by the lancet, cathartic, or other means, he was put on the use of a teaspoonful of the powdered root, three times a day. He was getting worse at the time; but was visibly better in two days, and, in five, entirely cured. Dr. Young has treated others in the same way, with the same result.

*Western Journal.*

*Remedy for Gleet.*—There are few practitioners of much experience, who have not sometimes been perplexed by the obstinacy of this complaint. Numerous are the cases where, after inflammation, heat of urine, and every painful symptom have been easily subdued, and patient as well as physician have considered the chief difficulty overcome, there is nevertheless left behind a constant oozing of the glary fluid, which withstands every endeavor to stop it. The complainant becomes impatient and uneasy, whilst his attendant can only lament over the failure of his best exertions.

After repeated trial of the means commonly advised and adopted, and as often encountering only disappointment and chagrin, I was induced to prescribe opium conjoined with borax, in the following proportions:—Opium grs. vi. Sub. bor. sod. 9*i.* Triturate and mix. Divide into xii. powders. Take one every night and morning in thick syrup. The good effects from this treatment will be very soon evident, and as far as my own experience goes, it is competent to remove any gleet whatsoever. If the powers of this recipe are fairly and generally tested, I am convinced it will supersede, as a general remedy, every medicine hitherto used.—*Cor. of Western Journal.*

*Subsidence of the Cholera in the West. Health of Cincinnati.*—Since the beginning of Autumn, we have heard of no Epidemic Cholera in the Valley of the Mississippi. It seems to have subsided, says the *Western Journal*, with our Bilious Fevers. In Cincinnati, for the last two months, we have not heard of a single case, under all the variety of powerful, exciting causes to which our people have exposed themselves. The city, moreover, in reference to other diseases, has been highly favored.

By consulting the bills of mortality for November and December, during a period of five years, we are enabled to institute the following comparison:—

1829	November and December	88 deaths.
'30	do.	136 do.
'31	do.	163 do.
'32	do.	139 do.
'33	do.	94 do.

The population of the city at the present time, is considerably beyond what it was in 1829, so that the proportional mortality of the months of November and December of this year, is less than it was for the preceding four years. The contrast which it makes with that of 1831, is striking. That was the autumn preceding the appearance of the cholera among us. Had the atmospheric deterioration then begun, and is the great healthiness of the present period to be considered as an evidence

that the distemperature has finally ceased? This is at least a pleasant speculation.

*Medical Degrees at Harvard University.*—At the semi-annual examination of the Medical School of Harvard University, on Wednesday last, the Degree of M.D. was conferred on the following gentlemen:—Jonathan W. Bemis, A.B. of Watertown; James B. Forayth, Farmington, Me.; Almond Gushee, Dighton; Horace Kimball, Boston; Joseph Moriarty, A.B. Salem; James Jackson, Jr. A.B. Boston; Edward T. Tremain, Halifax, N. S.; Charles F. Winslow, Nantucket; Samuel R. Wells, New Bedford; William Young, A.B. Boston.

*Whole number of deaths in Boston for the week ending February 21, 18.* Males, 10—Females, 8.—  
Of lung fever, 3—intemperance, 2—brain fever, 1—consumption, 4—tumor, 1—pleurisy fever, 1—  
Inflammation of the bowels, 1—suicide, 1—infantile, 1—decline, 1—typhous fever, 1—debility, 1.

#### PUBLISHER'S NOTICE.

The Publisher of the Boston Medical and Surgical Journal is authorized by the following distinguished Physicians of Boston to express to the Profession their favorable opinion of the plan and character of the work.

JOHN C. WARREN, M.D. <i>Prof. Anatomy and Surgery in Harvard University.</i>	JOHN WARE, M.D. <i>Adjunct Prof. Theory and Practice of Physic.</i>
JACOB BIGELOW, M.D. <i>Prof. Mat. Medica.</i>	WILLIAM INGALLS, M.D.
WALTER CHANNING, M.D. <i>Prof. Midwifery and Medical Jurisprudence.</i>	JOHN RANDALL, M.D.
JAMES JACKSON, M.D. <i>Professor Theory and Practice of Physic.</i>	JOHN B. BROWN, M.D.
	GEORGE HAYWARD, M.D.

Since the commencement of the Tenth Volume, very flattering and unsolicited recommendations have been received from leading members of the profession in several of the neighboring States. In this place there is room only to refer to them thus briefly.

#### ADVERTISEMENTS.

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An assortment of Surgical Instruments for sale at No. 35 Washington Street, five doors south of Cornhill, by A. P. RICHARDSON.  
Surgical Instruments made and repaired as above. Orders forwarded will meet with punctual attention.

Feb 19 copR

##### CHLORIC ETHER.

Prepared by JOHN WILLIAMS, and sold Wholesale and Retail by WHITTON & WHEELER, Cambridgeport. Feb. 26.

##### ILLUSTRATIONS OF PULMONARY CONSUMPTION.

Just published by ALLEN & TICKNOR, corner of Washington and School Sts. Illustrations of Pulmonary Consumption; its Anatomical Characters, Causes, Symptoms, and Treatment, with 19 Plates, drawn and colored from nature. By SAMUEL GROSZER MORTON, M.D. Physician to the Philadelphia Alms-House Hospital; Lecturer on Anatomy; Member of the Royal Medical Society of Edinburgh, of the Philadelphia Medical Society, of the College of Physicians and Surgeons of the University of New York; of the American Philosophical Society, of the Academy of Natural Sciences of Philadelphia, &c. &c. &c. January 8. copR

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Clinical Lectures on Surgery, at Hotel Dieu, in 1832; by BARON DUPUTTRE; translated by DOANE.  
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